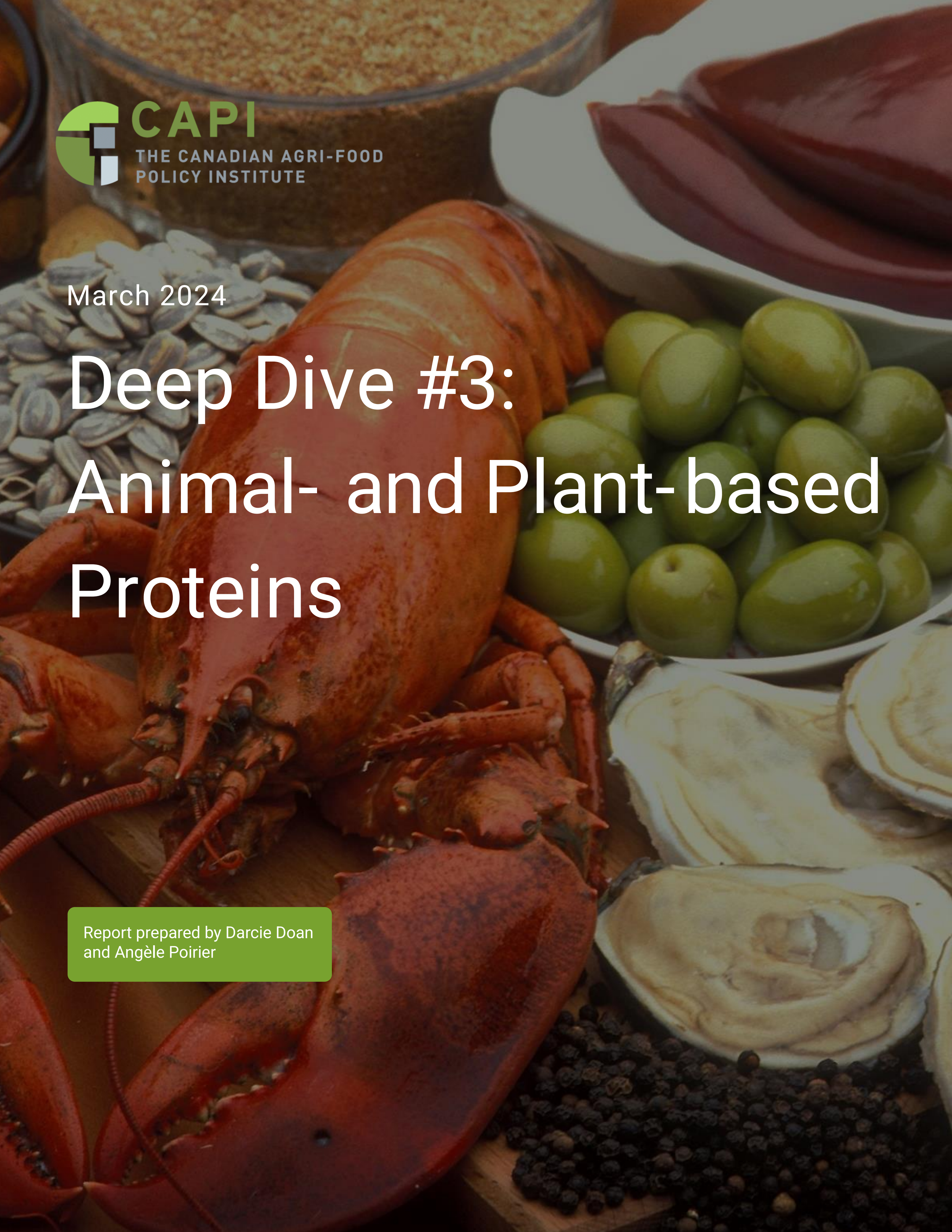

CAPI
THE CANADIAN AGRI-FOOD
POLICY INSTITUTE

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Deep Dive #3: Animal- and Plant-based Proteins

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1 Introduction

This deep dive report has been commissioned by Agriculture and Agri-food Canada (AAFC) as part of the AgriCommunication Initiative (Stream 2). The purpose of this report, and subsequent industry engagement, is to inform and engage with agriculture and agri-food producers about the evolving nature of Canadian consumer demand and implications for the Canadian agriculture and food industry.

This report aims to support both government and industry stakeholders in understanding why and how consumer behaviour, demand, and expectations evolve over time in the medium-term and to what extent these consumer trends will potentially impact the agriculture and agri-food sectors. This will support ongoing dialogue within and between governments and industry on how to best position the sector to respond to these trends.

Food choices matter to Canadians. For some, the food they eat is an expression of their identity and deeply held values. Canadians are interested in how food is produced, how it influences their health, and perhaps most importantly, how to ensure reliable access to affordable supplies of it. This research examined Canadian consumers' attitudes and preoccupations with respect to food purchases. Four trends were identified that are expected to influence consumers' food choices over the medium-term, i.e., roughly the next 10 years. Each of these four is described briefly below.

Canadians are concerned about the impact of food systems on the environment. They also register concern about the impacts of climate change on food production. Seniors are more likely to express very high levels of concern with the environmental sustainability of agricultural production, though younger adults are more likely to say that their purchase decisions are influenced by (perceived) climate impact. A preoccupation with environmental sustainability can influence consumer behaviour in a variety of ways, including through a preference for locally produced food and efforts to reduce food waste. However, it is not easy for consumers to discern how food choices impact the environment. There is a low level of reliance on label claims to identify sustainably produced food, combined with skepticism about companies' environmental claims. Consumers are expected to continue to seek information about ways to reduce the negative environmental impact of food choices.

Consumers are very interested in the impact of diet on health and well-being. This is a relatively longstanding interest that is expected to remain highly influential in the coming decade. After price, the nutritional and quality attributes of food tend to be the most influential determinants of food decisions. Specific food-health preoccupations are driven by new scientific knowledge as well as media- or celebrity-based fads that are sometimes quite short-lived. However, despite changes in the specifics, the underlying consumer desire to better understand how food choices affect health outcomes is persistent. Women and young adults are the most likely to be interested in healthy eating, though diet and health concerns cross generational lines. Current health-related trends that are expected to have staying power include the trend toward increasingly personalization of diets based on gender, age, and/or specific health concerns. Consumers are also expected to remain interested in increasing the amount of fresh produce and protein in their diets, especially plant-based proteins.

While price has always mattered to consumers, recent high food price inflation has focussed the Canadian consumer's attention on food affordability. Pandemic-related supply disruptions generated a new set of concerns about food availability. Many experts expressed the view that heightened concern about food security could continue to drive consumer behaviour for at least the next few years and possibly longer. Underlying this view is an expectation among some experts that disruptions to global food production and distribution systems will be frequent in the coming decade. There is also some evidence that food price shocks influence consumer Industry implications of evolving consumer behaviour even after the shock has abated. Consumers have been responding to food price concerns by "trading down" in a variety of ways: they are shopping at discount stores, choosing private-label products, taking increasing advantage of product sales, and buying less fresh and/or high-protein food. They are also seeking to reduce food waste.

The fourth and final trend is increased consumer interest in the social sustainability of the food system. Unlike the other three trends, this is an emerging trend that has yet to have a major impact on the Canadian marketplace. The trend is driven in part by a concern for the well-being of food system workers (grocery cashiers, farm labourers, meat cutters, etc) that came to prominence during the pandemic. It is also driven by a growing focus on diversity, equity, and inclusion and by the movements that seek to improve the position of historically marginalized groups in Canadian society. Finally, this trend includes the relatively more longstanding concern regarding the welfare of farm animals. Younger adults are particularly interested in social sustainability. The interest in social sustainability is expected by some several experts to be more widespread in the coming years and to drive changes in food purchasing behaviour.

These four trends present opportunities and challenges for the agri-food sector. The domestic market is only one of many markets served by Canadian food producers and manufacturers. It is also a very competitive market, where Canadians regularly chose products from around the world. Canadians' elevated expectations from the food system can therefore create challenges and opportunities for domestic producers and processors. Canadians want affordable, healthy food that supports environmental and social sustainability.

Effective communication with Canadian consumers about food issues that matter to them will be critical. In a crowded informational environment characterized by misinformation and confusion, getting one's message across is not easy.

The purpose of this report is to do a deeper dive into the Canadian consumer interest in increasing protein consumption, particularly plant-based proteins, building on findings regarding the health trends driving Canadian consumer demand. Many Canadians report that they are cutting back on meat consumption. They also express an increased interest in consuming plant-based proteins. This report will examine this trend in more detail, describing the attitudinal and demographic drivers underlying demand for plant-based proteins, the impact that it has and could have on purchase behaviour, as well as the factors that may affect the longevity of the trend. Finally, the report considers the implications of current trends for the Canadian animal and plant proteins industries and identifies opportunities to improve consumer perceptions and/or to capitalize on trends.

Methodology

This deep dive report represents the outcome of research effort by Darcie Doan Consulting, the Canadian Agri-food Policy Institute (CAPI), and the Canadian Centre for Food Integrity (CCFI).

Darcie Doan Consulting conducted 12 one-on-one videoconference discussions with industry experts to inform the findings presented here. Each discussion was approximately 45 minutes in length. CAPI conducted one discussion. A representative of AAFC attended each of these discussions. One participant provided written responses to the discussion questions. Taken together, the consultation process with industry experts included 14 participants. Industry experts were from the following sectors: grocery retail (4), food marketing, market research, and food innovation (5), food and food ingredient manufacturing (3), agri-food investing (1) and academia (1). The discussions were semi-structured, and guided by a set of questions regarding which trends the industry expert believed would be most influential over consumer behaviour in the coming decade, how those trends are influencing and will influence consumer behaviour, and how their company/industry is responding or intends to respond to the trends.

Findings were refined and described by drawing on a review of relevant industry and academic literature, as well as data analysis. The literature review included recent, relevant, and publicly available materials regarding consumer trends in the Canadian food and beverage market including academic research into consumer attitudes and behaviour, public opinion research reports, trend reports, forecasts and reports by industry insiders, and studies of actual food and beverage spending.

Quantitative analysis, in the form of econometrics and aggregated queries, was performed on data provided by CCFI from its consumer trust surveys. The surveys were conducted by Ipsos in the years 2018 through 2023, inclusive. The resulting datasets were six distinct cross-sections; that is, individuals could not be tracked through the years as in longitudinal or panel data. However, observations were pooled together such that trends could be identified through time, to the degree that survey questions were similar enough to permit standardization of variables across each of the six datasets.

2 Executive Summary

Canadians are increasingly interested in the ways in which diet can impact wellbeing. In recent years, there has been an especially pronounced interest among consumers in the quality and quantity of protein that they eat. There is a sense that while diets higher in protein are good for health, not all proteins are created equally in this regard. Many Canadians express an interest in plant-based proteins combined with an intention to reduce meat consumption. Few Canadians are vegetarians, though the proportion of those who say they never eat meat is twice as high among young adults.

The choice between proteins is driven by several factors. Canadians are increasingly preoccupied with food affordability. In the current price-sensitive environment, many report that they are cutting back on meat to save money. Some of those who are reducing meat consumption primarily for budgetary reasons may simply be eating less protein overall, while others may be substituting plant proteins for animal proteins. Cost is a critical factor in protein choices for these Canadians, and they will be drawn to both animal and plant proteins that represent higher value, for e.g., eggs and canned beans. Health reasons are another very important driver for changing protein choices. Many Canadians view plant proteins as healthier than animal proteins, and they are looking to increase their consumption of the former and decrease the latter. There is evidence that cost and health reasons are particularly important to older Canadians. Finally, concerns about environmental impacts and animal welfare are driving some Canadians, particularly younger Canadians, to choose plant proteins over animal proteins.

The animal-based food industry faces some specific headwinds when it comes to protein trends. The meat and dairy industry must continue to ramp up its efforts to counter negative consumer perceptions. Efforts to communicate the health benefits of animal-based food products, as well as the place of meat and dairy products in a healthy diet, can help to counter the perception that foods derived from animals are less healthy than plant-based foods. The development and marketing of lower-cost proteins may also help to preserve animal-based protein's share of the protein market. Consumers are likely to be open to messages about the value and quality of animal-based protein and interested in learning more about how to identify and prepare lower cost sources of animal protein.

On the other hand, the rise in plant-based meat and dairy alternatives presents an abundance of opportunities for food manufacturers, suppliers of ingredients, and Canadian crop growers. More can be done to add value to high-protein grains and legumes and make them more appealing to Canadian consumers. Capitalizing on growing consumer demand for plant-based proteins may require efforts to address the barriers to eating more of these products which may include convenience, taste, lack of knowledge regarding how to prepare them, and even price in some cases.

3 Increased emphasis on protein in the diet

For at least the past ten years, consumers have been expressing interest in consuming more protein. This has been driven in part by a number of diet trends such as the Keto, Atkins, South Beach, and Paleo diets that emphasize, among other things, reduced grains and carbohydrates intake, combined with higher protein intake. Most industry experts do not expect these specific diets to be particularly long-lived or to become widespread. They are highly restrictive and represent, for most people, a dramatic departure from regular eating patterns. That said, the idea that increasing protein consumption is good for you has caught on.

Many experts expect that consumers will continue to be preoccupied with protein consumption, and that the preference for plant-based proteins will become even more widespread with time.

Industry experts emphasized that while plant-based proteins are enjoying substantial growth, it is important to recognize that this growth is part of a larger trend toward higher protein consumption in general, including both animal and plant sources.

> *Meatless meat, definitely, there's a trend there. But how big it gets I have no idea. The bigger trend is protein in general. Granola bars with 12g of protein, whey protein powder. All of that business. It's beyond weightlifters now. Ensure is now bringing out protein drinks. Eggs: even though inflation has been massive, it's still one of the cheapest sources of protein. People are consuming more eggs now than they ever did. – Retail industry expert*

While it is unclear exactly what benefits consumers expect from protein consumption, benefits commonly described in the media include the following (as listed in the Healthline blog entitled "10 Science-Backed Reasons to Eat More Protein," Gunnars, 2023):

- Feeling fuller longer, which may in turn help people to eat less and lose weight
- Building muscles or preventing loss of muscle mass
- Boosting metabolism
- Improving brain functioning

These types of benefits are likely to appeal to a wide range of people of different age and activity levels.

The trustworthiness of claims related to protein content is likely to be high. Protein content is a mandatory nutritional labelling element for all processed foods and the nutrition facts table can be used by consumers to verify claims related to protein content. Public trust research by CCFI (2022) found that the labels that consumers find most believable include nutrition fact tables – these tables are consistently presented on packaged foods and backed by regulation.

4 A case of plant vs animal?

This heightened interest in higher protein consumption suggests that an increase in plant-based protein consumption does not necessarily have to come at the expense of animal-based proteins. Consumers are looking to eat more protein, which implies that there is room to add plant-based proteins while holding animal protein consumption constant, or even increasing it. The extent to which plant-based proteins are in fact being substituted for animal proteins is unclear, and will be further explored in this report. It is important to note at the outset, however, that reducing animal protein consumption is not synonymous with becoming a vegetarian. Only 4% of the Canadian population says that they do not eat meat at all (CCFI, 2023) and this proportion would appear to be growing only slowly over time, if at all. The rate is double for ages 18-34 (8% of respondents in 2023 said they do not eat meat), and even higher – 11% – for Gen Z. The rate is lowest (2%) for age 55 and up.

Figure 1. Share of respondents who do not eat meat, by age (2023).

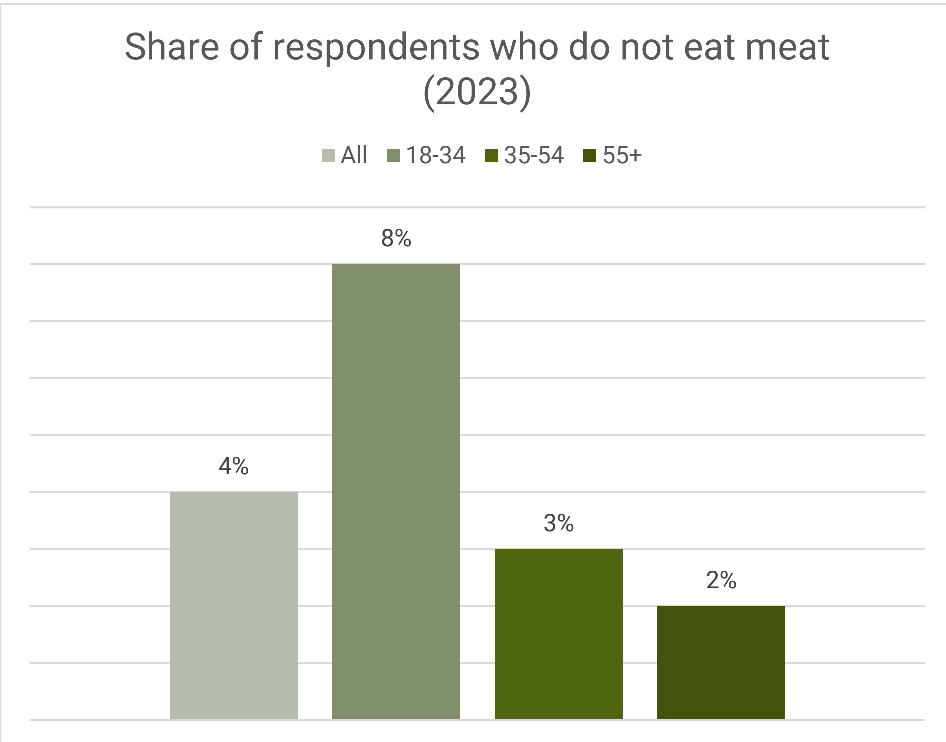


Image created internally. Data source: CCFI. (2023). Consumer trust survey. [Dataset].

Consumers have a wide range of protein sources to choose from. Animal proteins include meats, eggs, seafood, and dairy products. These, in turn, come in a very wide variety of forms at retail. Some products, such as eggs, are commonly sold to consumers without further processing. Other products, such as meat-based snack foods, may be highly processed. Similarly, plant-based proteins come in a wide range of formats. On one end of the spectrum, a bag of dried lentils represents a relatively simple, low-cost source of plant protein, while a frozen veggie burger may involve a long ingredient list, a higher price, and a high degree of processing. Plant-protein-added versions of products that would otherwise be low-protein, high carbohydrate foods, such as breads and pancake mixes, are increasingly prevalent.

Some retail industry experts reported rapid growth in the “faux” meat and dairy categories, with new products being introduced to the market frequently. In 2023, 17% of all respondents reported having increased their consumption of plant-based meat alternatives; for ages 18-34, this was 23%, but only 11% for ages 55 and up, with age 35-54 falling in the middle at 22% reporting increased their consumption in the past year. While sales in this category are growing, they are still a very small percentage of total sales, and some retail experts wondered if consumer demand would continue to keep up with growth in supply.

The growth is rapid, but the percentage of the category is still very, very small. Like, in the cheese category it [non-dairy cheese] might be 1% of total cheese sales, but it's growing, and more and more vendors are coming every day with new products. Is it sustainable? I don't know. – Industry expert

Most Canadians eat both animal and plant-based protein sources, and many express a preference for animal-based proteins. In a 2023 survey by the Agri-Food Analytics Lab, almost half of all Canadians said that they preferred animal proteins, while 28% said they liked both animal and plant-based equally, and only 12% expressed a preference for plant-based proteins.

Other surveys have shown that taste preferences are among the most popular reasons given by consumers for choosing to eat meat (Agri-Food Analytics Lab, 2021).

However, when asked, a large proportion of Canadians say that they are reducing their meat consumption. The preference for animal products combined with an intention to reduce their consumption may reflect a taste preference that conflicts with beliefs about what is healthy, what they can afford and, for some, what is good for the environment or for animals.

There are many factors that may be important to consumers when they are choosing between protein sources, including taste, the protein content in the food, the price of the product, the presence of additives and preservatives, ease of preparation, product packaging and size, and the amount of fat in the product. For the purposes of this report, we will look specifically at the choice between animal and plant-based protein sources, and will examine the benefits or drawbacks that consumers tend to associate with one or the other of these two main protein types. Where a particular benefit is only associated with a subset of, for example, plant-based protein sources, we will note that.

5 Attitudes and behaviours driving protein choices

There is limited available evidence regarding the extent to which animal protein consumption is actually in decline. Longitudinal studies of Canadian consumption show overall meat consumption per capita holding roughly steady over the past ten years, with some substitution of chicken for pork and beef (Shahbandeh, 2023). However, in opinion surveys, large numbers of consumers are stating that they are eating less meat. They also claim to be eating more plant-based proteins.

As discussed in the preceding section, most Canadians are not vegetarians. However, a sizeable minority claims to have reduced their meat consumption over the past year and this proportion appears to be rising year over year, from 27% to 37% from 2019 to 2023 (see figure below). In 2023, CCFI asked Canadians if the amount of meat they ate in the last year had increased, decreased, or stayed the same. Half of respondents said that it had stayed the same, while 37% said it had decreased. In 2019, this was 27%, and in 2020, it was 32% (in 2022, 24% of respondents said they had reduced meat consumption *due to the cost of food*). In all years, adults over 55 were more likely to be reducing their meat consumption compared to younger adults.

Figure 2. Eating less meat by year and age group.

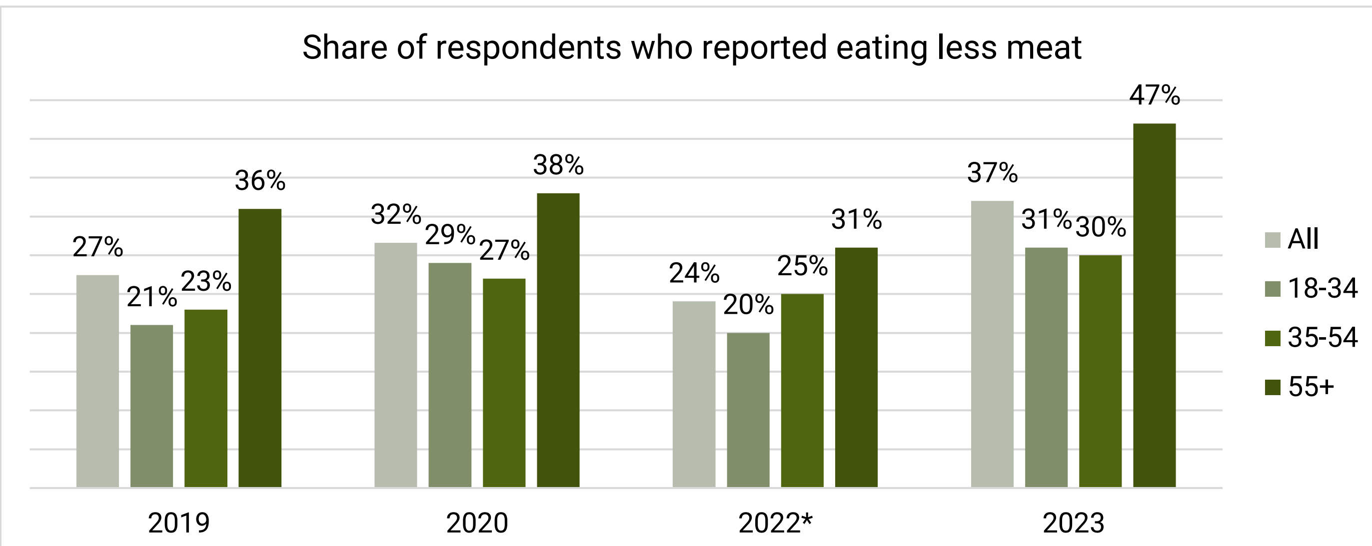


Image created internally. Data source: CCFI. (2019-2023). Public trust research. [Datasets].
*Ate less meat due to the cost of food.

In 2023, reduced meat consumption *by meat type* was included in the survey (Figure 3). In 2023, the leader in terms of decreased meat consumption was beef: 65% of those who reduced meat consumption said they reduced beef consumption, compared with less than 50% for pork, chicken, and fish or seafood. Older Canadians (ages 55 and up) who had cut back on meat were more likely to have reduced beef consumption (78%) than young adults (aged 18-34: 44%). For pork, chicken, and fish/seafood, there was relatively less variance between age groups. The survey did not ask about other animal-based protein sources, such as dairy and eggs.

Figure 3. Reduced meat consumption by meat type and age group, 2023.

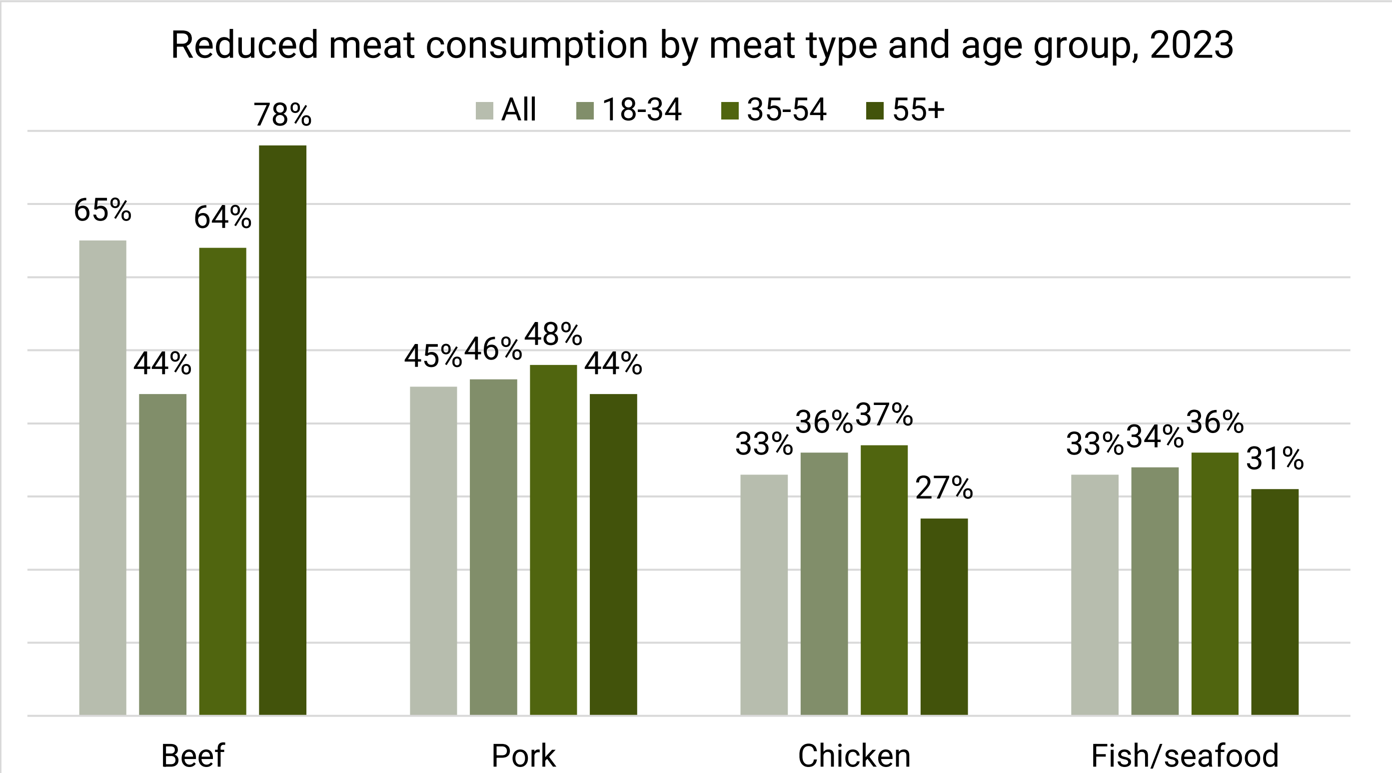


Image created internally. Data source: CCFI (2023). *2023 Public Trust Research Report*.

A survey by the Canadian Roundtable on Sustainable Beef (CRSB, 2023) that asked specifically about consumer habits with respect to beef found, similarly, that 34% of respondents said they had decreased their beef consumption from 2019 to 2020. Agri-food Analytics Lab (2021) measured the extent to which Canadians "had thought about cutting beef from their diet" and found that about a quarter of Canadians had thought about doing so in the past year. The proportion was higher (31%) among adults under 35 years of age (Agri-Food Analytics Lab, 2021).

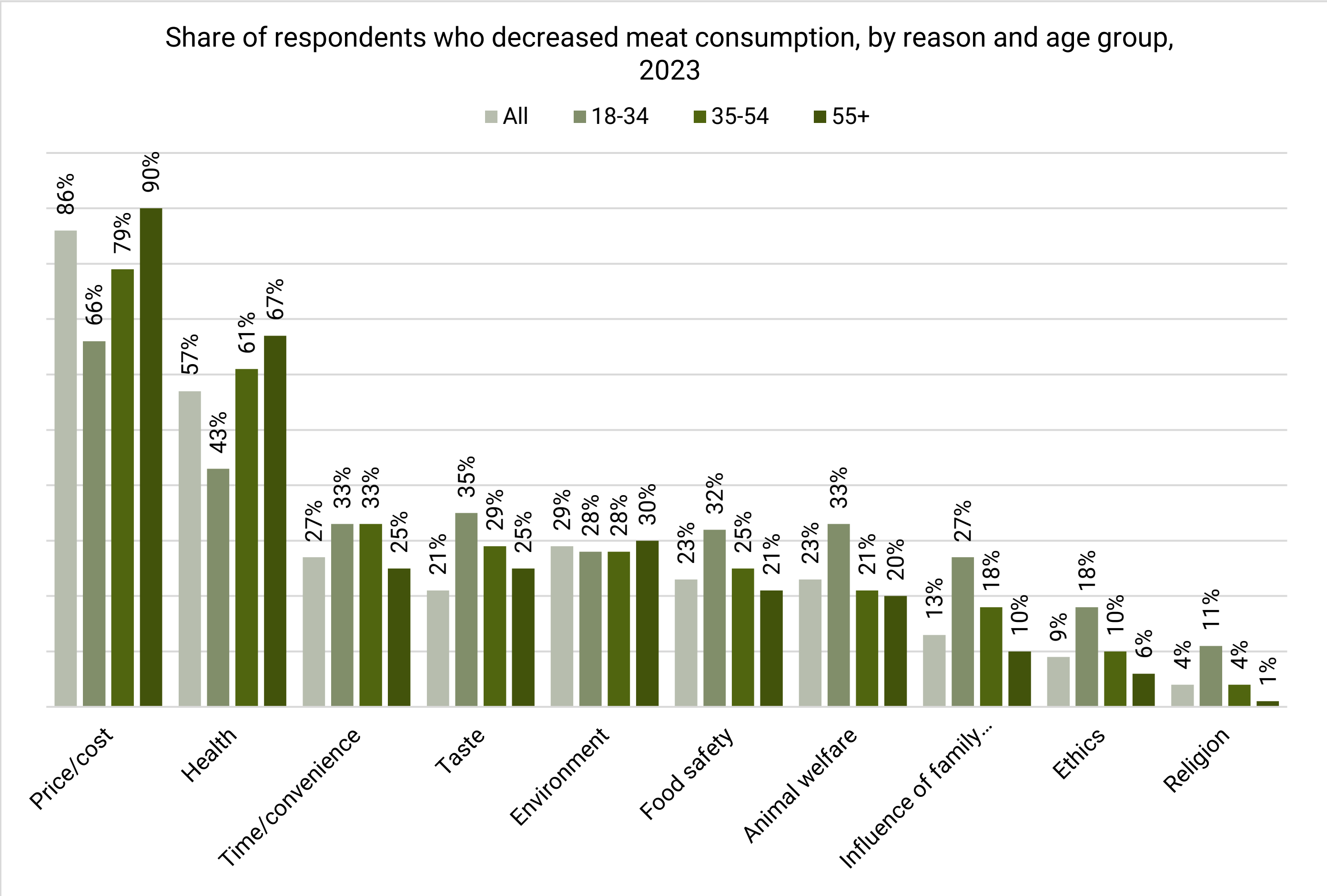
A study published in 2019 by the National Research Council in collaboration with the Agri-Food Innovation Council estimated that more than 40% of the Canadian population is actively trying to incorporate more plant-based proteins into their diets (Agri-food Innovation Council, 2019). Industry experts and survey results confirm that many consumers are seeking to replacing meat and dairy with plant-based alternatives.

5.1 Affordability

When consumers are choosing between animal and plant-based protein sources, the relative value of each in terms of value for money is among the top decision factors. In recent surveys, when consumers are asked about the reasons for their decision to reduce meat consumption over the past year, the most commonly given answers revolve around cost and price. Fully 86% of consumers named cost/price as a reason for declining meat consumption in CCFI's 2023 public trust survey, up from 70% in 2020. This finding has been corroborated in other recent surveys, with cost being the number one reason cited for cutting beef consumption (Beef Research, 2022). Price factors have increased in importance relative to all other factors when making food purchase choices in recent years due to high food price inflation.

Figure 4 shows the reasons for decreased meat consumption, broken down by age group. Price or cost is the leading reason for reduced meat consumption for all age groups, with a slightly greater importance for ages 55 and up: of all respondents in this age group reporting decreased meat consumption, 90% said it was due to price or cost. While price was also the main reason cited for reduced meat consumption among those aged 18-34, these younger adults were more likely than older adults to say they had reduced meat consumption due to taste (cited by 35%), food safety (32%) or animal welfare (33%).

Figure 4. Reduced meat consumption, by reason and age group, 2023.



Reducing meat consumption is one of the more common ways that consumers seek to reduce overall food spending. In the same survey, 26% of consumers said that they ate less meat as a way to cope with generally high food prices (CCFI, 2023).

It is not clear whether these consumers are increasing their consumption of other animal proteins (e.g. eggs, yogurt) or plant-based proteins to compensate for the drop in meat consumption. Consumers also report buying less food overall, in response to high food prices (CCFI, 2023). Some industry experts have reported a decline in the quality of the diet of some, particularly low-income, households. To the extent that meat consumption is declining and is not being replaced with other proteins, dietary quality may indeed decline. In a 2023 survey by the Agri-Food Analytics lab, about half of Canadians reported that they had reduced the quantity of *meat or protein sources* they purchase due to increased food costs, which suggest that overall protein consumption has declined. The same survey found that many Canadians are worried about the impact of high food prices on the quality of their diet and long-term health (Agri-Food Analytics Lab, 2023b).

Some consumers likely are increasing their consumption of other proteins, including plant-based proteins, to compensate for reduced meat consumption. For these value-conscious consumers, the cost of the protein source will be dominant decision factor. Low-cost proteins, as identified by experts interviewed, include both animal and plant sources such as eggs, canned fish, canned lentils and beans, peanut butter, and dried pulses of all kinds. Several industry experts emphasized that is not possible to generalize and say that plant-based proteins are less expensive than animal proteins. Consumers are somewhat unlikely to find relief at the cash register if they attempt to substitute ready-to-eat plant-based products such as veggie burgers or faux-meat slices for meat products. Research shows that most Canadians do not associate plant-based meat alternatives with affordability (Agri-Food Analytics Lab, 2023b).

Industry experts report that some animal-based products, particularly fresh seafood products and certain cuts of meat, are viewed as luxury goods by consumers. When consumers are feeling the pinch, cutting back on luxuries is a common strategy. These products may not be completely foresworn, but reserved for increasingly rare occasions. Some industry experts expressed that this luxury brand image needs to change and that seafood, in particular, suffers from it in the current climate. According to one expert, there are a number of processing methods that could make certain types of seafood available at lower price points, but that these are not commonly used due the long-standing industry practice of discarding imperfect product and reserving the rest for premium-priced markets.

Seafood is viewed as luxury because we positioned it as a luxury. – Industry expert

5.2 Health

The second-most common reason given for reducing meat consumption by Canadian consumers in 2023 was “health.” In previous years, and in other surveys, health is the most common reason given. This suggests that health is a relatively more longstanding driver for declining animal protein consumption, eclipsed recently by concerns about the affordability of animal products. For example, a 2023 study by Dalhousie University’s Agri-food Analytics Lab into plant-based protein confirms that in Canada, consumers choose plant-based meat and dairy alternatives primarily for their perceived health benefit and nutritional value, with taste, environmental benefits and/or animal welfare concerns as secondary reasons (Agri-Food Analytics Lab, 2023a).

Canadians are very interested in nutrition and health impacts of diet. They seek out information on this topic more often than on any other topic, and they may also be more willing to pay a premium for foods viewed as healthier. The 2022 public trust survey by CCFI found that 56% of Canadians say they had sought out information about nutrition and healthy eating in the past six months, a proportion held approximately steady at 54% in 2023. Furthermore, a quarter of Canadians say that they have sought out information about “plant-based, meat alternative types of foods” suggesting that many Canadians are interested in plant-based proteins and seeking them out.

Consumers who are able to do so may also be relatively more willing to pay more for foods perceived to be healthier, when compared to foods with other attributes, such as those that are perceived to be better for the environment. According to 2022 research by CCFI, 66% of Canadians say they “always” or “sometimes” seek out food products that are the healthiest, even if they cost more.

While an interest in the health impact of food consumption cuts across gender and age lines, women and young people are the most interested in this topic. According to a 2021 survey by Deloitte, women and young consumers (18-34) are more likely than men or older adults to report seeking out foods they perceive as healthier (Deloitte, 2021). Analysis of CCFI survey results reveals similar demographic trends. Those more concerned with having access to information about nutrition and healthy eating are more likely to be women (65.40% vs. 57.19% for men), and consumers aged 18 through 34 (64.08% vs. 60.26% for all other age groups).

On the other hand, analysis of other survey results (see Figure 4 earlier in this report) suggests that health is relatively more important to older adults, when it comes specifically to their reasons for cutting back on meat consumption. Those over 55 were more likely to say they had cut back on meat for health reasons, compared to adults aged 18-34 (67% vs 43%).

Industry experts described how specific health concerns differ by age group, with older adults more focussed on managing age-related illness and disease through their dietary choices, while younger adults may be looking to improve their general wellness and prevent illness by eating a more "clean" or "wholesome" diet that includes less processed food. Several experts pointed to the demand among younger adults for "clean labels" where the ingredient list is short and the ingredients themselves are easy to recognize (for example, Nourish Food Marketing, 2023). With longer average life spans, Canadians are spending a significant period of time in the "older adult" category, and several experts emphasized that this group represents an important market not only because of their longevity but because of their relative wealth compared to younger adults.

When consumers compare animal and plant-based sources of protein in terms of their health effects, many of the attention is focussed on fats. Some animal-based sources of protein, such as meat, eggs, and dairy products, are viewed as high in cholesterol and saturated fats (Heart & Stroke, 2024). Saturated fats are, in turn, associated with an elevated risk of cardiovascular disease and other health problems. Plant-based proteins, on the other hand, are viewed as low in fat. The fats that they do contain are unsaturated and may even be viewed as health-promoting (e.g. olive oil is said to have anti-inflammatory properties; Leech, 2023). Plant proteins are also often accompanied by higher fibre content, which aids digestion.

Comparisons also revolve around the absorbability and completeness of animal versus plant proteins, and here the debate is lively. Some say that plant proteins are more easily digestible and absorbed by humans, while others claim that animal proteins are the most easily absorbed and used (see, for example, Rossiaky, 2023).

It is beyond the scope of this paper to summarize all the available health evidence. Suffice it to say that Canadians appear to be increasingly swayed by health information that emphasizes the benefits of plant proteins and warns against excessive consumption of animal products, especially fatty animal products. The updated Canada Food Guide, for example, states that "Plant-based protein foods can provide more fibre and less saturated fat than other types of protein foods. This can be beneficial for your heart health." The Guide then offers specific suggestions for how to replace some animal-based protein with plant-based proteins (Health Canada, 2022).

Medical professionals or academics are viewed as the most reliable sources of information regarding diet and health topics. The 2019 CCFI survey asked respondents to evaluate the reliability of various individuals or groups as sources of information. As pictured at right, medical professionals such as dietitians and doctors received 44% of "very reliable" votes when it came to giving information about nutrition. University professors received 15%, while government ranked near the bottom with 8% of all "very reliable" votes. Farmers (producers) received 14% of all "very reliable" votes.

Figure 5. Sources of information about nutrition.

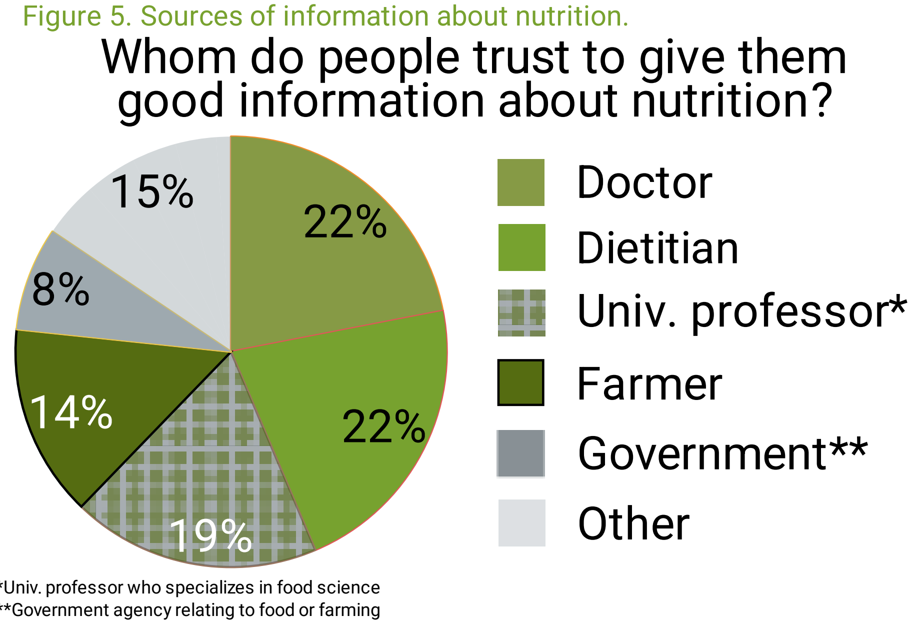


Image created internally. Data source: CCFI Research Report (2019).

Industry experts corroborated the importance of health drivers for growth in plant-based proteins, and alluded to some of the barriers that may exist to fully capitalizing on this demand.

> *People do want to eat healthier. We see this whole non-meat side of things developing. If we do a better job of educating people I see opportunities for the lentils and beans side of the business, what I call "clean protein." I think people are interested in trying to find healthy food that is affordable. Back to basics. People don't know how to cook, though. They are looking for someone to make it easy. – Industry expert*

Canadians are, in many cases, only beginning to learn how to prepare and eat plant-based protein foods. A shift away from meat-based and toward plant-based meals may require new skills and new recipes. There are an abundance of resources available for consumers who are trying out plant-based cooking. There are also a large number of new products that cater to consumers who may prefer to simply replace a meat product with a plant-based "faux" meat product, rather than learning new recipes. As discussed earlier in this report, these products are convenient and may compare favourably on taste as well, but they typically come with long ingredient lists and relatively higher prices.

5.3 Environment and Animal Welfare

Concern about the impact of animal agriculture on the environment, and for the welfare of animals in agriculture, are secondary drivers for growth in plant-based protein demand (and conversely, decline in demand for animal products). They merit closer examination in this deep dive, however, because both are priorities for consumers.

At the present time, most Canadian consumers do not strongly associate animal agriculture with negative environmental impacts. Consumers also have mainly positive impressions regarding the treatment of animals on farms. Survey evidence suggests that, should either of these impressions worsen significantly, consumer demand for animal products may decline. These two factors therefore represent risks to the animal products industry that competitors in the plant-based protein industry do not face to the same extent (or in the case of animal welfare, at all).

While some climate advocacy groups suggest that one of the most impactful consumer choices available is to stop eating meat (see, for example, Take the Jump, n.d.), only 37% of Canadian consumers report that they have cut back on meat consumption, and of those, only 29% cite environmental reasons (CCFI, 2023). Otherwise stated, in 2023, 11% of all Canadians declared having decreased meat consumption for environmental reasons. This is clearly a minority of Canadians, though it is a large enough minority to merit some attention.

Relatively few Canadians are confident in their knowledge about production practices. Research by CRSB (2022) found that only one third of Canadians said they had a good understanding of the process of producing beef in Canada. The remaining two thirds admitted that they didn't know much about the topic. Half of Canadians rate the sustainability of Canadian beef production as "excellent" or "good." Only 10% rated it as "poor." There is conflicting information available about the environmental impacts of agriculture, including animal-based agriculture. On the one hand, some Canadian consumers will be aware that animal agriculture is a source of greenhouse gas emissions from both ruminant digestion and animal manure. In some parts of the world, there may also be environmental issues related to the conversion of forests to grazing land. On the other hand, raising animals on pasture is associated with environmental benefits in terms of both biodiversity and carbon sequestration. Research suggests that Canadian consumers are open to messages about efforts by the animal agriculture industry to improve environmental performance through GHG emission reductions, reduced food waste, and increased wildlife habitat (CRSB, 2022). While environmental concerns might become a driving force for reduced meat and dairy consumption in the future, this would depend on a consensus emerging about negative impacts of animal agriculture.

Animal welfare is an important consideration for Canadian consumers, though most Canadians are inclined to think that animals are humanely treated on Canadian farms. Should consumer impressions regarding animal welfare decline, we would expect this issue to have an important impact on meat consumption habits. Research conducted by the Canadian Roundtable for Sustainable Beef in 2022 found that “humane animal treatment” was the fourth most popular factor (deemed “very important” by 41%) in beef purchasing decisions, after taste, food safety and quality, and price (CRSB, 2022).

CCFI has been tracking attitudes about animal welfare in agriculture over several years and has found that a majority of consumers consistently indicate that they are comfortable eating meat, eggs, and milk as long as the animals were treated “decently and humanely.” About half of Canadians agree that animals on Canadian farms are treated humanely. The other half is mainly “neutral” on the topic; only a small minority (under 10%) disagrees that animals are treated humanely.

Among those who hold a more negative view of animal welfare, this factor is one of the main drivers in the decision to reduce meat consumption. Animal welfare was cited as a reason for decreased meat consumption by 23% of respondents who declared having eaten less meat in the past year. This reason was more likely to be given by young adults (18-34) compared to older adults (33% vs 20%; CCFI, 2023). Young adults are also more likely than older adults to say that they never eat meat. Animal welfare, along with price and health concerns, is one of the main factors driving young adults to reduce or forego meat consumption. If these relatively more negative perceptions regarding the animal welfare persist through life, some experts indicated that they expect animal welfare to be a more influential factor in meat purchase decisions in future years as young adults move into middle age and their purchasing power increases.

6 Summary and Implications for Industry

The consumer desire to eat more high-quality protein has the potential to benefit suppliers of foods that are high in either animal or plant-based proteins. Most Canadians consume meat and dairy products regularly, and few are vegetarians.

However, the animal-based food industry faces some specific headwinds when it comes to protein trends. Some meats, seafoods, and dairy products are viewed by consumers as expensive, or even as luxuries. In an environment of high food price inflation, consumers are attempting to control food costs by cutting back on the amount of meat, in particular, that they eat. Furthermore, diets rich in animal products are associated by some with specific health issues such as obesity, high blood pressure and cardiovascular disease. Finally, animal agriculture may also suffer from consumer concerns about animal welfare or environmental impacts.

Consumers who wish to cut back on animal-based proteins have a growing number of options. They may choose from an array of plant-based faux meat and dairy products. Alternatively, they may choose to reformulate their diet by eating new types of foods, such as pulses. The strategies used by consumers to replace animal with plant proteins will depend in part on the amount of time and money that they have available. Older adults (those over 55) are more likely than young adults to be cutting back on meat consumption for both affordability and health reasons. They will be looking for value-priced meat alternatives.

The meat and dairy industry must continue to ramp up its efforts to counter negative consumer perceptions. Efforts to communicate the health benefits of animal-based food products, as well as the place of meat and dairy products in a healthy diet, can help to counter the perception that foods derived from animals are less healthy than plant-based foods. Consumers may be swayed by messaging that emphasizes the quality of animal-based proteins, and the range of lower-fat animal proteins available. Scientists and medical professionals are the most credible sources of information about health topics for consumers and should be used as spokespeople.

In a price-sensitive environment, the development and marketing of lower-cost proteins may also help to preserve animal-based protein's share of the protein market. Consumers are likely to be open to messages about the value and quality of animal-based protein (e.g. price per gram of protein), and interested in learning more about how to identify and prepare lower cost sources of animal protein, such as eggs and canned fish.

Younger adults (18-34) are more likely than older adults to say that they never eat meat, though the proportion of vegetarians still only hovers around 10% in this age group. This younger age group, while also influenced by cost and health factors, is more likely to also cite food safety, taste, animal welfare and ethics as reasons for cutting back on meat consumption. This suggests that messaging may need to be differentiated based on the age of the target audience.

The rise in plant-based meat and dairy alternatives presents an abundance of opportunities for food manufacturers, suppliers of ingredients, and Canadian crop growers. Many large food companies, including Maple Leaf, ADM, and Cargill, are active in developing and selling plant proteins. Demand for these new, high-value-added products can be expected to create additional demand for field crops.

While plant-based proteins can be extracted from most crops, pulses enjoy a naturally high protein content and stand to benefit relatively more from the increased demand for plant proteins. Canadian farmers are among the world's leading producers of pulse crops. Several industry experts expressed some frustration that the Canadian pulse industry is not doing more to add value to pulses and make them more appealing to Canadian consumers. This is viewed as a very large growth market that could be better served.

I see a huge opportunity for lentils in this country. We can grow lentils really well here and I think we can do a lot more with them, not just grow them and export them. We should be adding value here. – Industry expert

Capitalizing on growing consumer demand for plant-based proteins will require efforts to address the barriers to eating more of these products which may include convenience, taste, lack of knowledge regarding how to prepare them, and even price. Companies are already increasing their offerings of ready-to-eat products that are high in plant protein, such as bean-based soups and granola bars with added plant proteins. Additional product innovation designed to increase the plant protein content of familiar foods will likely be well-received by the Canadian consumer. Consumers may also appreciate efforts to make unfamiliar foods (such as pulses) easier to prepare through the provision of, for e.g., simple recipes on product labels.

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